

## REMARKS

Applicants appreciate the examiner's thorough examination of the present application in the final Office Action of April 20, 2005 (hereinafter "Office Action"), including the indication that Claims 3,28-33, 35-37 and 43 recite patentable subject matter. Applicants respectfully request reconsideration and withdrawal of the rejections of Claims 1, 2, 5, 7-27, 34, 40-42 and 44-46. In the interest of brevity, Applicants incorporate the arguments of Applicants' Amendment of December 16, 2004 by reference, and focus herein on distinctions between the claims and the cited U.S. Patent No. 6,492,669 to Nakayama et al. (hereinafter "Nakayama"), which the Office Action appears to overlook.

In responding to Applicants' Amendment of December 16, 2004, the Office Action states that "Nakayama shows a second cap layer 6 formed on the first cap layer 5 as recited in the claims." Office Action, p. 8. Nakayama does show formation of an InGaN Schottky layer 6, but the cited passage from Nakayama (column 9, lines 20-34) clearly describes a contact formation process in which an opening is formed in the InGaN Schottky layer 6 (the alleged "second cap layer") *by etching the Schottky layer 6*, followed by deposition of a metal (aluminum or titanium) in the etched opening/ to form a contact.

In sharp contrast, independent Claim 1 recites:

A method of fabricating a transistor, the method comprising:  
forming a nitride-based channel layer on a substrate;  
forming a nitride-based semiconductor first cap layer on the nitride-based channel layer;  
forming a *mask* that covers a first portion of the first cap layer and exposes an adjacent second portion of the first cap layer;  
forming a nitride-based semiconductor second cap layer on the exposed second portion of the first cap layer *using the mask*;  
removing at least a portion of the *mask* to form a recess on the first portion of the first cap layer adjacent the second cap layer;  
forming one of an ohmic contact or a gate contact in the recess; and  
forming a corresponding gate contact or ohmic contact on the substrate.

In other words, according to Claim 1, a recess for contact formation is formed by removing a portion of the mask that was used to define the second cap layer -- *not by etching the second*

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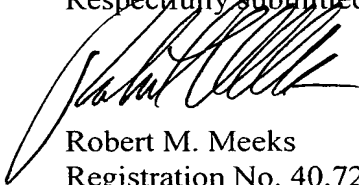
*cap layer itself*. This is an entirely different technique for forming a contact opening than the etching technique described in the cited material from Nakayama. Accordingly, Nakayama does not teach or disclose all of the recitations of Claim 1 and, for at least this reason, Applicants submit that the rejection of independent Claim 1 is erroneous and should be withdrawn. The rejection of independent Claim 42 should be withdrawn for at least similar reasons. Applicants further submit that the dependent claims are patentable at least by virtue of the patentability of independent Claims 1 and 42.

Applicants also note that examiner-initialed copies of the Form PTO-1449 filed with Applicants' seventh Information Disclosure Statement dated August 27, 2004 (copy enclosed) did not accompany the Office Action dated April 20, 2005. Applicants respectfully request that the examiner acknowledge consideration of the references cited therein by return of a copy of the initialed Form PTO-1449. Applicants further request consideration of an eighth Information Disclosure Statement filed June 14, 2005, and indication of such consideration by return of a copy of the initialed Form PTO-1449.

### CONCLUSION

Applicants submit that the present application is in condition for allowance and the same is earnestly solicited. The Examiner is encouraged to telephone the undersigned at 919-854-1400 for resolution of any outstanding issues.

Respectfully submitted,



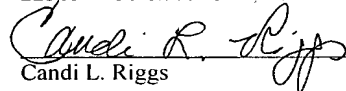
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Candi L. Riggs

Attorney Docket No. 5308-248

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PATENT



In re: Saxler et al.

Serial No.: 10/617,843

Filed: July 11, 2003

For: NITRIDE-BASED TRANSISTORS AND METHODS OF FABRICATION  
THEREOF USING NON-ETCHED CONTACT RECESSES

Group Art Unit: 2823

Examiner: Fernando L. Toledo

Confirmation No.: 7985

Date: August 27, 2004

Mail Stop Amendment

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

**SEVENTH INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §1.97(b)**

Sir:

Attached is a list of a document on Form PTO-1449, together with a copy of the listed non-patent literature. It is requested that this document be considered by the Examiner and officially made of record in accordance with the provisions of 37 C.F.R. § 1.56 and Section 609 of the MPEP.

This Information Disclosure Statement is submitted in accordance with 37 C.F.R. § 1.97(b), within three months of the filing date of the above-referenced application or before the mailing of a first Office Action on the merits, whichever event occurs last. Therefore, no fee is believed due. However, the Commissioner is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-0220.

Respectfully submitted,

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Erin A. Campion

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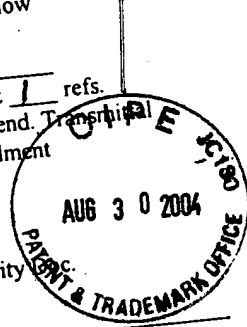
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Date: 8-27-04  
Doc. No. 5308-248  
Serial No. 0617893  
Inventor: Saxe et al

Sir: Kindly acknowledge receipt of the accompanying items listed below  
by placing your receiving stamp hereon and return mailing:

- Application Transmittal and:  
— Specification pages  
— No. of Claims  
— Declaration & POA  
— Assignment and Fee  
— Small Entity Statement  
— Formal Drawings/ sheets  
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— Exp. Mail ☒ 1st Class Mail  
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— ☒ PDS & PTO-1449 & 1 refs.  
— Amendment & Amend. Transmittal  
— Preliminary Amendment  
— Issue Fee  
— Brief  
— Appeal  
— Submittal of Priority



Respectfully submitted,  
MYERS BIGEL SIBLEY & SAJOVEC, P.A.  
Attorneys for Applicant

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